

WATER WELL DRILLING FOR THE PROSPECTIVE WELL OWNER



(INDIVIDUAL, DOMESTIC USE)



**WATER WELL
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FOR THE PROSPECTIVE
WELL OWNER
(INDIVIDUAL, DOMESTIC USE)**

This pamphlet was compiled by the Board of Water Well Contractors primarily to assist prospective owners of non-public wells. While much of the information is also useful for community, multi-family, or public water supply wells; there are additional considerations, not discussed in this publication, that need to be addressed.

If you are the current or prospective owner of a community, multi-family, or public water supply well; please contact the Dept. of Environmental Quality, Public Water Supply Division for assistance. Contact information can be found at the end of this publication.

Revised 2007

How Much Water Do I Need?

You will need a dependable water supply for your present and future uses.

An average household uses approximately 200-400 gallons of water per day. For a family of four, this means that a domestic well should provide a dependable yield of 10 to 25 gallons per minute (gpm) to adequately supply all needs, including lawn and garden watering. Much smaller yields may be acceptable, if adequate storage tanks are used. Most mortgage companies require a well yield of at least 5 gpm. More specific information is available from county sanitarians, engineering firms, water well contractors, or pump installers.

Before you have your well drilled, find out from a local drilling contractor, the Montana Department of Natural Resources and Conservation (DNRC), or the Montana Bureau of Mines and Geology (MBMG) how much water can be produced from the aquifers in your area, the chemical quality of that water, and the depth to the water supply. You should also examine logs of the wells drilled in your local area or talk with people in the vicinity about their wells. Well log information is available electronically through MBMG's Ground Water Information Center (GWIC) website: <http://mbmggwic.mtech.edu/>. If you do not have internet access, you can contact GWIC directly at (406) 496-4336. Additional resources for locating well logs include the DNRC Water Resources Regional Office in your area and the MBMG offices in Butte or Billings. The phone numbers and addresses are listed in the back of this booklet. Before contacting these

organizations, try to have an accurate land description to at least township, range, and section, or latitude-longitude, or UTM of the area in which you plan to locate your well.

Various conditions make it impossible to guarantee that a well contractor will find an adequate supply of groundwater at your location. For example, the geology in an area may be such that groundwater is not available at your site even though a neighbor's well is a good producer. It is not advisable to build your home until you know you have an adequate water supply on your building site. Depending on the locale, this may mean drilling and testing a well prior to initiating construction of the house.

What Permits Do I Need Before I Construct A Well?

Generally speaking, permits to drill (or start cards) are not required by the Board of Water Well Contractors prior to drilling.

However, there are locations and/or situations when permits are required in advance of well construction. A few phone calls to the following agencies and individuals will help you determine what permits may be needed, or if there are any additional regulations for water wells:

- 1) The county sanitarian
- 2) The county floodplain coordinator
- 3) The DNRC Regional Office
- 4) The Dept. of Environmental Quality

A list of county and state contacts appears at the end of this booklet.

Be aware that most subdivision lots that have been created in the past two decades (and even before then in some cases) have a specific well location where the well is required to be located. Contact the county clerk's office or the DEQ Subdivision Section to determine where that location is.

How Do I Select A Water Well Contractor?

This is perhaps the most important step in installing your well. The names of licensed water well contractors in your area are available from various sources including:

County health departments
Lending institutions
Well owners in the area
DNRC Water Resources Regional Offices
Normal advertising sources

A list of licensed individuals is also maintained on the Board of Water Well Contractor's (BWWC) website:
http://www.dnrc.mt.gov/wrd/water_op/bwwc/. If do not have electronic access, you may also verify a license by contacting the BWWC at DNRC – Board of Water Well Contractors, PO Box 201601, Helena, Montana 59620-1601, phone (406) 444-6643.

When selecting a contractor, check for information on:

- Reputation
- Reliability
- Equipment
- Competence
- Experience

Once you narrow your selection, ask yourself the following questions in deciding who will drill your well.

1. Is the contractor licensed by the Montana Board of Water Well Contractors?

State law requires water well contractors and drillers to be licensed by the Board of Water Well Contractors. While your well is being constructed, either a licensed Water Well Contractor or Water Well Driller must remain at the drilling site. The contractor is the person licensed to contract for and construct, alter, or rehabilitate water wells. Contractors are also required to carry a \$4,000 surety bond (or its equivalent) as a condition of licensure. In contrast, a licensed driller is a person in the employ of a contractor who can construct the well, but not enter into contracts with a landowner.

Licensing with the Board helps ensure that 1) qualified and competent individuals are available to construct water wells in the State of Montana, and; 2) that minimum water well construction standards are enforced. Should a complaint arise between a landowner and a licensed contractor/driller, there is a process available where the alleged violation is investigated. If a formal complaint is filed, and the Board determines that the minimum construction requirements have not been met, then the Board may require the driller/contractor to return to the site and correct the problem, potentially suspend or revoke the contractor's license, or take action against the contractors bond. Please note that the Board only has jurisdiction over water well

construction standards. Issues involving professional conduct, or business/financial disputes cannot be addressed by the Board.

A general contractor's license issued by the Montana Department of Commerce *does not* authorize the holder to drill water wells.

2. Will a written contract be provided?

A written contract is highly recommended, and protects both the well owner and the contractor by avoiding misunderstandings that may arise as to the type of materials (e.g., casing, pump) to be used, the quality and quantity of water to be delivered, the anticipated well depth, and the financial agreement. This is the time to set a maximum depth the driller cannot exceed without expressed agreement by the owner. To avoid misunderstandings, the terms under which the additional drilling will be completed should be in writing.

3. Will the contractor provide a written, itemized estimate of the costs of drilling your well?

Costs that can be itemized are:

- a. Cost of mobilization of equipment
- b. Cost per foot of drilling
- c. Cost per foot of casing
- d. Cost of sealing materials and labor involved
- e. Cost of other materials (e.g., drive shoe, screen, perforated casing)
- f. Cost of development

- g. Cost of pump test on well
- h. Cost of grouting
- i. Cost of pump and accessories
- j. Cost of disinfection
- k. Cost of testing

4. Who will be responsible for site cleanup?

The equipment used in drilling is heavy and will damage lawns by leaving depressions. In addition, large volumes of water and mud are often produced. You should decide before the well is started what precautions need to be taken to contain this water and mud. The driller is responsible for removing unused materials from the site, however the rest of the site cleanup is usually left up to the well owner.

5. When will copies of well logs be given?

State law requires that a copy of the well log be submitted to the Montana Bureau of Mines and Geology within 60 days after completion of the well by the driller. The driller is also required to supply a copy of the completed well log to the well owner.

6. What type of guarantee does the contractor provide on workmanship and materials?

State law requires contractors to guarantee that all materials and equipment are new, unless specified, and that their work is free from defects for at least one year. It is important for you to notify the contractor immediately of any defects or problems

with the well construction, materials or workmanship. Any guarantees on the quality of water produced by the driller - particularly in regard to turbidity - should be discussed beforehand.

7. Who will be responsible for sizing and placement of the pump?

Proper pump size and type are important to ensure adequate water pressure and prevent damage to the well. It is not advisable to purchase a pump prior to the drilling of the well. As of the date of this publication, pump installation is not included as part of water well construction and thus does not fall under the jurisdiction of the Board. While many licensed Water Well Contractors also include pump installation as part of their business, there are other individuals engaged in this enterprise. Select your pump installer as you would any contractor.

What Is Important In Properly Locating The Well?

Consider the relative elevations and locations of septic tanks, drain fields, stockyards, and other sources of contamination. Some areas have unique geologic features that should be investigated to be sure that they won't lead to contamination of the well. Take neighboring sewage disposal systems into consideration.

At a minimum, a well should be 10 feet from the property line, 50 feet from any septic tank or sewer lines, and 100 feet from the drain field. However, more stringent setback distances may be required by the county or the DEQ. You can obtain information on the location of septic systems and drainfields, as well as any

additional setback regulations, from the county sanitarian at your local health department. In addition, most subdivision lots that have been created in the past two decades (and even before then in some cases) have a specific well location where the well is required to be located. Contact the county clerk's office or the DEQ Subdivision Section to determine where that location is.

As the landowner you should locate all buried electrical wires, pipes, and septic systems before the contractor arrives. This will avoid any problems for the contractor in setting up the rig.

To promote convenience and reduce costs of installation and maintenance, keep the following in mind when locating the well and supply line.

1. Locate the well close to the house to minimize the amount of ditching, piping, or supply line needed, *but* leave enough space to provide easy access to the well for maintenance. In some cases, a drill rig or other large machinery may be required, and the ability to service your well could be compromised.
2. Make sure the supply line from the well to the house is below the frost line -- at least 5 feet deep in most areas. This will prevent line blockage and rupture caused by water freezing in the line during cold weather.
3. Try not to put patios, decks, driveways, etc., over your buried water supply line. If problems with the line arise, having these features over the line will increase the difficulty and cost of excavating the line. In addition, driveways or other compacted

or paved areas can sometime increase the depth to which frost penetrates below the ground surface.

4. Professional assistance may be available from the MBMG for some well locations.
5. Some counties require the well location to be approved or permitted by them prior to drilling. Check with your county sanitarian about local requirements.

How Is A Good Well Usually Constructed?

Water wells in Montana are commonly drilled by one of two methods. The first method, is rotary drilling. While there are many variations of this method (direct, reverse circulation, dual rotary, etc), the basic principles remain the same. In rotary drilling, a drill bit is attached to a hollow drill pipe. While the bit and pipe are rotated, drilling fluid or air is forced inside the drill hole and returns the surface, carrying the drill cuttings. In direct rotary, the drilling fluid is forced inside the drilled pipe, and up to the surface through the annulus (the space between the outside of the drill pipe and the drill hole). In reverse circulation, the drilling fluid enters the drill hole through the annulus, and exits via the drill pipe.

A second method, the cable tool, uses a heavy chisel-shaped bit, which is raised and lowered on a cable. The bit breaks up the rock into small pieces called cuttings, which are removed with a bailer. A bailer is a piece of pipe with a valve on the lower end. The bailer is lowered into the well with the valve open. The cuttings

flow upward into the bailer. When it is raised out of the well, the valve closes, and the material remains in the bailer until it is released outside of the casing.

Other, less commonly used, techniques of well construction include jetting, augering, and driving.

The drilled hole is lined with steel or plastic well casing. The casing, usually 4 to 8 inches in diameter, serves as a structural support to prevent caving of the hole and to shut out water of undesirable quality that is found in certain areas. If the well penetrates sound bedrock that will not cave into the hole, the casing needs to extend only through the loose overburden materials or 18 feet below the surface, whichever is deeper. Final casing length and diameter will depend on the depth of the well. Plastic casing, if used, must have a metal transition section extending at least 18 feet down from the ground surface and at least 18 inches above ground. The steel casing is important in guarding against contamination of the well because it prevents breakage of the casing near the surface, allows the space between the side of the drilled hole and the casing to be sealed (grouted) to prevent contamination, and accommodates the correct installation of pitless adapters (if needed).

When the well ends in sand and gravel, a well screen may be placed in the water-bearing formation. The well screen is a sieve or strainer-like section of pipe that attaches to the bottom of the casing and extends into the water-bearing formation. The well screen allows water to enter the well while keeping sand from entering. Perforated pipes are sometimes substituted for a well

screen. Preventing sand and gravel from entering the well is important to maintain good water quality in the well, reduce wear on pumps, and avoid plugging or other problems. The need for a screen or perforated casing will depend on the geological formations in your area.

Grouting is also an important step in constructing a well. Grouting is sealing the space between the side of the drill hole and the casing with an impermeable material, usually bentonite or cement. Generally, every well must be sealed in this manner to at least 18 feet below ground. Grouting is extremely important in guarding against well contamination because it prevents seepage of contaminants along the casing from the surface.

When flowing water is encountered in a well, additional sealing standards are required. 1) An unperforated casing shall extend into the confining layer overlying the artesian zone; 2) the casing must be sealed to prevent surface and subsurface leakage from the artesian zone; 3) if the well flows at the surface, it must be equipped with a control valve; 4) the well must be completed with seals, packers and neat cement grout to eliminate leakage around the well casing. It is the driller's responsibility to use all reasonable methods and care to prevent leakage around the well casing within a reasonable time frame or until the Board is satisfied that the leakage is controlled.

Section 85-2-505, MCA, requires that all flowing wells be capped or equipped with valves to stop the flow of water when it is not put to beneficial use. Wells must be constructed and maintained to prevent the waste, contamination, or pollution of ground water.

Installation of a properly sized pump is important to the function of your well. Too large a pump will result in overpumping, which can ruin the pump by allowing air to enter the pump (causing vibrations that can damage the pump) or by pulling sand into the well. Too small a pump will not give you the water you need. Your well contractor may be able to recommend the pump best suited for your particular situation. The size of the pump is determined by the expected yield of the well, how much water is needed, the diameter of the well casing, the distance between the house or storage tank and the well, and the difference in elevation between the water level in the well and the storage tank or house. You should not purchase a pump until your well has been drilled and tested to determine its yield.

Finally, it is important that the well be thoroughly disinfected to kill any bacteria introduced during construction of the well or installation of the pump. The responsibility for disinfection and water tests should be addressed in a written contract between you and the contractor. Disinfection is accomplished by chlorination of the well with a dilute chlorine solution. Disinfection of the well before and after pump installation is required for all wells. Your contractor can fully explain this procedure.

Before the driller leaves the site, make sure he or she has placed a tight fitting cap over the top of the well casing. Capping a well tightly will reduce the risk of contamination or pump damage from something falling or being dropped into the well. Also, the ground surface around the well head should be graded so that it slopes away from the well. The contractor may not do this for you, so you may have to do it yourself.

The Board of Water Well Contractors has adopted mandatory water well construction standards. These are minimum standards that must be followed by all licensed water well contractors and drillers during well construction to (1) protect groundwater and the well from contamination, (2) help ensure good development of the well to maximize potential yield, and (3) provide an accurate record of the well construction procedures. Copies of the minimum standards are available from the Board of Water Well Contractors office (address on back of this booklet) or via the Board's website: http://www.dnrc.mt.gov/wrd/water_op/bwwc/

What Steps Should Be Taken To Ensure An Adequate Yield From My New Well?

Various steps taken by the well driller during the construction of your well will affect its yield. Yield is governed by the formations encountered, depth to which the aquifer is penetrated, completion techniques used and use of screens or perforations. It's important that the well owner be aware of why these steps are (or are not!) being taken by the driller in construction of the well.

Steps that maximize well yield include the following:

1. Make sure that your well extends an adequate distance into the water source or aquifer. This increases the efficiency with which water flows into your well from the aquifer and at the same time allows your well to operate under conditions when water levels in the aquifer are lower, as they may be during a prolonged drought.

2. Increase the area of water entry into your well. In many geologic environments, unperforated wells that are open only at the end of the casing can provide adequate yields for domestic or stock-watering purposes. However, perforating or screening the well where it is in contact with the water-bearing formations will improve the yield of any well, and is often necessary for large yields or in less productive aquifers. Water-bearing formations typically include fine materials that reduce their ability to transmit water to your well. Removal of some of the fine-grained material from around the casing will improve the yield of the well. Well development is intended to accomplish this. A variety of techniques are used, depending on the geologic setting and the requirements of the well. These range from simple overpumping of the well until the water withdrawn is sand-free, to mechanical surging of the well, to high pressure jetting of formations. All are intended to remove fine-grained material from the vicinity of the well openings, leaving in place coarser more permeable material. All wells should be developed to where they provide sand and silt free water. The need for additional development depends, again, on your water needs and on the geology of your area.

Be aware that some wells will produce some amount of fine sand or silt regardless of how well the well is constructed – this is due to the geologic composition of the aquifer.

A pump test is important to help determine the correct size pump to install and the yield that can be sustained from your well. Water well contractors are required to test well yield for at least one hour on all wells from which no more than 100 gpm will be with drawn.

A minimum eight-hour test is required for any well from which more than 100 gpm will be withdrawn. These are minimum standards for testing. Most mortgage companies require a longer test, and more rigorous testing procedures may be required by other government agencies for subdivisions (DEQ) or water rights (DNRC).

Is My Well Water Safe To Drink Without Treatment?

Generally underground formations are the cleanest source of water. Most groundwater contains some minerals dissolved from the earth through which the water has moved. These are rarely harmful to health but may give the water an unpleasant taste. The geologic formations act as return filters to screen out pollution. Shallow groundwater may be more susceptible to contamination than deeper aquifers.

Water quality testing is important. Contaminants may be introduced during drilling and pump installation or may already exist in the aquifer. Common water quality problems are high levels of coliform bacteria, nitrates, and total dissolved solids. High levels of coliform bacteria can indicate pollution from animal or human wastes. High concentrations of nitrates can indicate contamination by agricultural practices (fertilizer application or feed lots) or septic tank wastes. High concentrations of nitrates can cause health problems or death, particularly in infants and unborn babies. Concentrations in excess of 10.0 mg/l of nitrogen (as nitrate) are of particular concern to families with pregnant women or infants less than one year old. Nitrate at these levels can interfere with the infant's ability to use oxygen, causing blue baby

syndrome, a sometimes-fatal condition. Total dissolved solids can cause an unpleasant taste and, at higher concentrations, may cause health problems. Proper testing to determine the presence of contaminants and proper disinfection will guarantee good quality water.

Aesthetic problems may be caused by hardness, iron, manganese, or iron bacteria. Information on treatment of these problems is available from your water well contractor, county sanitarian, county extension agent or a water conditioning company. The National Ground Water Association also has a helpful web-site: www.wellowner.org.

Do I Need A Water Right?

Yes. If you intend to use more than 35 gallons of water per minute or 10 acre-feet in volume per year, you will need to apply for a "Beneficial Water Use Permit" (Form 600) from the DNRC in order to legally use the water in the well. It is advisable that you contact the DNRC before the well is drilled to see what information is required to apply for a permit, what rules must be followed for aquifer testing, if your planned development is in a Controlled Ground Water Area, or if there are any other restrictions on new ground water appropriations in the area.

If you intend to use 35 gpm or less, and are not in a Controlled Ground Water Area, you are not required to obtain a permit, but you must file a "Notice of Completion of Groundwater Development" (Form 602) with DNRC within 60 days after you begin using the water. It is your responsibility as a landowner to

file this form to establish your legal right to use the water from your well. The filing of a "Well Log Report" (Form 603) with MBMG by the driller/contractor does not constitute filing your water right. Make sure you know the proper legal description of your well location, and include this information on the water use permit application or notice of completion.

Information on new appropriations of water (applications, rules, Controlled Ground Water Areas) can be found on the DNRC website: http://www.dnrc.mt.gov/wrd/water_rts, or by contacting the Water Resources Regional Offices.

What Should I Do To Maintain My Well After It Is Completed?

1. Most wells should be tested once per year for coliform bacteria contamination. These bacteria indicate contamination caused by animal or human waste. If your well is less than 25 feet deep it could be particularly susceptible to contamination and should be tested several times per year and at least once during spring runoff.

The Montana Public Health Lab and numerous private laboratories can analyze water samples for bacteria and nitrate which are the most commonly tested parameters in domestic drinking water supplies. Water tests can also be performed for many other contaminants. The state lab or county sanitarian generally can advise you on what to analyze for under your specific conditions. Also, the MSU Extension Service can provide information about common water quality problems and

recommended analysis. Ask the local extension service office (*under county government listings in the phone book*) for Extension Bulletin #48: “Water Quality: A Matter of Choice”.

Sample bottles and instructions are available from the Montana Public Health Lab. Call (406) 444-2642 between 7:30 a.m. and 5:00 p.m., Monday through Friday. A nitrate test costs around \$15.00 - \$20.00; bacteria tests cost \$15.00 - \$20.00. For private laboratories look in the yellow pages under “Laboratories - Testing.”

2. Wells that occasionally show signs of bacterial contamination should be disinfected on a continuous basis. For information on how to properly disinfect your well and recommendations on equipment to use for disinfection, contact your water well contractor, county sanitarian, or the Source Water Protection Section at the Dept. of Environmental Quality.
3. Many problems with the quality of well water are caused by bacteria that are not pathogenic, but affect the appearance of the water. These bacteria can produce undesirable tastes and odors, oily films, slime growths, and rust (red water). Disinfection of the well can prevent these conditions from occurring or reduce their frequency. Your local county health department/sanitarian can give you information on how you can disinfect your well to prevent these problems. A list of phone numbers has been included at the end of this booklet. You may also find phone numbers and addresses in your local phone directory.

4. Back siphonage of contaminants into your well from fertilizer tanks, stock tanks, and pesticide residue can occur when your domestic water supply system shares a common distribution system with these facilities. If sharing a common distribution system is unavoidable, it is important to use equipment with proper backflow preventors to guard against back siphonage.
5. Make sure you routinely maintain your system; discuss a proper maintenance schedule with the individual who installs your system. Checking your system once a year should show any small items that, left unchecked could become costly to fix.
6. Ask your contractor about abandoning a well that has been replaced. You are responsible for abandoning a well that has been permanently discontinued or that may be considered a health hazard. However, you cannot perform the work yourself. Make sure that you hire a licensed water well contractor.

Do's And Don'ts

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| <ol style="list-style-type: none">1. Do make sure that you have adequate groundwater for your proposed needs before you construct your home.2. Do contact the local DNRC Regional Office before your well is constructed for information and requirements on water rights applications.3. Do consider your neighbor's present well and septic system location in locating your own well. |
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4. **Do** contact the county sanitarian and floodplain manager before your well is constructed to see if there are additional regulations/restrictions regarding well locations and construction.
 5. **Do** make certain that you and the water well contractor fully understand and agree upon the terms of your agreement (whether it is verbal or written).
 6. **Do** select a pump and water system adaptable to your present and future needs. Hire an experienced water well pump installer.
 7. **Do** have your well water analyzed to determine potability in all cases, and to determine mineral content if recommended by the contractor.
 8. **Do** obtain a copy of the well log on your completed well, including a bill of materials and record of work performed.
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9. **Don't** hire an unlicensed person to drill your well. Ask to see a current license card or check with the Board of Water Well Contractors to verify licensure.
 10. **Don't** ask your contractor to construct a well that does not meet the minimum water well construction standards. (To do so will result in probable future costs to correct deficiencies, as well as place the water well contractor's license in jeopardy.
 11. **Don't** purchase your pump prior to well construction.

We have attempted to address all areas of concern that you may have when you are considering having a water well drilled. If you have questions on the material we have covered or on subjects that were not covered, please contact the Board of Water Well Contractors' office.

DNRC Water Resources Regional Offices

BILLINGS

Airport Industrial Park
1371 Rintop Drive
Billings, MT 59105-1978
(406) 247-4415

HELENA

1424 Ninth Ave.
PO Box 201601
Helena, MT 59620-1601
(406) 444-6999

BOZEMAN

2273 Boot Hill Court
Suite 110
Bozeman, MT 59715
(406) 586-3136

KALISPELL

109 Cooperative Way
Suite 110
Kalispell, MT 59901-2387
(406) 752-3267

GLASGOW

222 Sixth St. South
PO Box 1269
Glasgow, MT 59230-1269
(406) 228-2561

LEWISTOWN

613 NE Main St.
Suite E
Lewistown, MT 59457-2020
(406) 538-7459

HAVRE

210 Sixth Avenue
P.O. Box 1828
Havre, MT 59501-1828
(406) 265-5516

MISSOULA

1610 South Third Street West
Suite 103
P.O. Box 5004
Missoula, MT 59806-5004
(406) 721-4284

County Subdivision and Floodplain Contacts

<u>County</u>	<u>Environmental Health Dept. / Sanitarian</u>	<u>Floodplain Manager</u>
Beaverhead	(406) 683-3770	(406) 683-3770
Big Horn	(406) 665-8724	(406) 665-8724
Blaine	(406) 357-3310	(406) 357-3310
Broadwater	(406) 266-9209	(406) 443-3962
Carbon	(406) 446-1694	(406) 446-1694
Carter	(406) 538-8375	
Cascade	(406) 454-6950	(406) 454-6905
Chouteau	(406) 622-3016	
Custer	(406) 874-3490	(406) 234-6339
Daniels	(406) 765-3458 x464	
Dawson	(406) 377-5772	(406) 377-4807
Deer Lodge	(406) 563-4066	(406) 563-4018
Fallon	(406) 778-7102	(406) 778-7111
Fergus	(406) 535-7466	(406) 535-9046
Flathead	(406) 751-8130	(406) 751-8200
Gallatin	(406) 582-3120	(406) 582-3130
Garfield	(406) 232-0273	
Glacier	(406) 873-4461	(406) 873-4461
Golden Valley	(406) 535-7466	(406) 323-2804
Granite	(406) 563-4066	(406) 859-3771
Hill	(406) 265-5481 x266	(406) 265-5481 x266
Jefferson	(406) 225-4126	(406) 225-4126
Judith Basin	(406) 535-7466	
Lake	(406) 883-7236	(406) 883-7243
Lewis & Clark	(406) 447-8351	(406) 447-8285
Liberty	(406) 424-8343	(406) 450-8972
Lincoln	(406) 293-7781 X228	(406) 293-7781 x229
Madison	(406) 843-4275	(406) 843-4275

County Subdivision and Floodplain Contacts

<u>County</u>	<u>Environmental Health Dept. / Sanitarian</u>	<u>Floodplain Manager</u>
McCone	(406) 433-6876	
Meagher	(406) 761-5631	(406) 547-3612 x104
Mineral	(406) 822-3525	(406) 822-3525
Missoula	(406) 258-4755	(406) 258-4841
Mussellshell	(406) 535-7466	(406) 323-2804
Park	(406) 222-4142	(406) 222-4142
Petroleum	(406) 535-7466	
Phillips	(406) 654-2465	(406) 654-2421
Pondera	(406) 271-4036	(406) 271-4040
Powder River	(406) 366-0627	(406) 436-2657
Powell	(406) 846-2420	(406) 846-3680 x210
Prairie	(406) 377-5772	
Ravalli	(406) 375-6565	(406) 375-6530
Richland	(406) 433-6876	(406) 433-2407
Roosevelt	(406) 765-3458 x464	(406) 653-6224
Rosebud	(406) 356-2528	(406) 346-7968
Sanders	(406) 827-6961	(406) 827-6911
Sheridan	(406) 765-3458 x464	
Silver Bow	(406) 497-5020	(406) 497-6250
Stillwater	(406) 322-8055	(406) 322-8055
Sweet Grass	(406) 932-5395	(406) 932-5470
Teton	(406) 466-2150	(406) 466-2155
Toole	(406) 424-8340	(406) 450-8972
Treasure	(406) 356-2528	(406) 342-5547
Valley	(406) 228-6264	(406) 228-6264
Wheatland	(406) 377-2770	(406) 538-7466
Wibaux	(406) 377-5772	
Yellowstone	(406) 256-2770	(406) 256-2775

State Contacts

Dept. of Natural Resources and Conservation

Board of Water Well Contractors (406) 444-6643

Montana Bureau of Mines and Geology

Ground Water Information Center (406) 496-4336

Eastern Montana College (406) 657-9938

Dept. of Environmental Quality

Enforcement Division (406) 444-0379

Permitting/Compliance Division (406) 444-4549

Public Water Supply Program

Billings (406) 247-4445

Helena (406) 444-4400

Source Water Protection Section

Helena (406) 444-6697

Subdivision Review Program

Billings (406) 247-4447

Helena (406) 444-4400

Kalispell (406) 755-8985

Missoula (406) 258-3720

Public Health Lab (406) 444-2642

24-hour spill hotline (406) 841-3911

Other information available from the Board of Water Well Contractors' office in Helena:

Copies of the Board of Water Well Contractors' law and rules.....\$5.00

Websites to Bookmark

Groundwater Information Center (GWIC) – Well Logs

<http://mbmggwic.mtech.edu/>

Dept. of Natural Resources and Conservation

Water Rights Information

http://www.dnrc.mt.gov/wrd/water_rts/default.asp

Board of Water Well Contractors webpage and Board Members

http://www.dnrc.mt.gov/wrd/water_op/bwwc/default.asp

Dept. of Environmental Quality

Source Water Protection Program

<http://www.deq.mt.gov/wqinfo/swp/index.asp>

Subdivision Review Program

<http://www.deq.mt.gov/wqinfo/Sub/Index.asp>

State Environmental Lab (Private Well Testing)

<http://www.dphhs.mt.gov/PHSD/Lab/Environmental/enviro-lab-private-well-testing.shtml>

GIS / Mapping

Montana Natural Resource Information System (NRIS) including Topofinder

<http://nr.is.mt.gov/interactive.html>

Montana Cadastral Mapping Program

<http://gis.doa.mt.gov/>

Other Useful Sites

Environmental Protection Agency – Private Drinking Water Wells

<http://www.epa.gov/safewater/privatewells/index2.html>

American Ground Water Trust

<http://www.agwt.org/gwinfo.htm>

Wellowner.org

<http://www.wellowner.org/>